

### **REMARKS**

Initially, Applicants express appreciation to the Examiner for the detailed Official Action provided. Furthermore, Applicants express appreciation to the Examiner for the acknowledgment of Applicants' Information Disclosure Statement (IDS) filed on January 28, 2009.

Upon entry of the present paper, claims 1 and 6 will have been amended, and claims 4, 8, and 10-13 will have been cancelled without prejudice or disclaimer of the subject matter thereof. The herein-contained amendments should not be considered an indication of Applicants' acquiescence as to the propriety of the outstanding rejection. Rather, Applicants have amended claims 1 and 6 in order to advance prosecution and obtain early allowance of the claims in the present application. Thus, upon entry of the present paper, claims 1-3, 5-7, and 9 are pending in the present application with claims 1 and 6 being in independent form.

Applicants address the rejections provided within the Official Action below and respectfully request reconsideration and withdrawal of the outstanding rejections pending in the present application together with an indication of the allowability of claims 1-3, 5-7, and 9 (*i.e.*, all pending claims) in the next Official communication. Such action is respectfully requested and is now believed to be appropriate for at least the reasons provided below.

#### **35 U.S.C. § 103 Claim Rejections**

In the outstanding Official Action, claims 1-11 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' "Admitted Prior Art" (hereinafter

“AAPA”) in view of U.S. Pat. No. 5,535,369 to Wells et al. (hereinafter “WELLS”) in view of U.S. Pat. No. 5,287,500 to Stoppani, Jr. (hereinafter “STOPPANI”). Additionally, claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of WELLS in view of STOPPANI and further in view of “The Raid Book: A Storage System Technology Handbook” by Paul Massiglia (hereinafter “MASSIGLIA”).

With respect to the above-mentioned rejections, Applicants initially note that, by the present response and without acquiescing in the propriety of the outstanding rejections, Applicants have amended independent claims 1 and 6 (*i.e.*, all pending independent claims) to incorporate the features of dependent claims 4 and 8, respectively. In this regard, Applicants respectfully traverse the outstanding rejections.

Independent claims 1 and 6 of the present application recite, respectively, a method and apparatus of recording data to a free area of an information recording medium and a data processing apparatus for writing or reading data to or from an information recording medium. According to independent claims 1 and 6, a recording area of the information recording medium is managed in units of blocks, with each block including at least two clusters as units for storing data. The method of recording data, as recited by independent claim 1, searches the blocks for a valid block that has at least a predetermined number of unused clusters, determines the valid block from the searched blocks, and writes data in the determined valid block prior to writing data in the searched blocks having less than the predetermined number of unused clusters. The data processing apparatus, as recited by independent claim 6, includes a valid free area manager that manages, by units of blocks, information for the blocks containing at least a

predetermined threshold number of unused clusters, and, when recording data to a new free area, a data processor searches, with reference to the information held in the valid free area manager, for a valid block from the managed blocks.

With respect to the above, each of amended independent claims 1 and 6 recite that the information about the predetermined threshold number, which is used to determine the valid block, is acquired from the information recording medium. In this regard, each information recording medium generally has optimum performance specifications. According to a non-limiting and advantageous effect of the above-mentioned feature of amended independent claims 1 and 6, acquisition of information about the predetermined threshold number of unused clusters from the information recording medium means that an optimum threshold value suitable for a particular recording medium can be obtained. The optimum threshold value enables access to the information recording medium with maximum performance of the information recording medium. Applicants respectfully submit that the applied references fail to disclose or render obvious such a feature. That is, Applicants respectfully submit that AAPA, WELLS, STOPPANI, and MASSIGLIA, whether considered alone or together in any proper combination thereof, fail to disclose that information about the predetermined threshold number of unused clusters that is used to determine the valid block of clusters is acquired from the information recording medium.

In the outstanding Official Action, the Examiner asserts, on pages 5-6, that STOPPANI discloses the above-recited feature of independent claims 1 and 6. Applicants respectfully disagree. To the contrary, STOPPANI discloses maintaining a free space table 240 with a file system 124 (STOPPANI, col. 6, lines 25-26). The free

space table 240 includes a separate record or entry 242 for a plurality of storage devices mounted on a computer system (STOPPANI, col. 6, lines 25-28). Each record points to a linked list of free storage descriptors 244 that each include a flag that indicates whether or not the associated storage device is full (*e.g.*, when it has less than a predetermined amount of free space), or a numerical value that indicates the number of free clusters remaining on the device (STOPPANI, col. 6, lines 25-43).

According to STOPPANI, the free space table 240 is maintained by the file system (STOPPANI, col. 6, lines 25-26). That is, STOPPANI does not disclose nor render obvious that the predetermined amount of free space is acquired from each storage device. In this regard, Applicants respectfully submit that maintaining a count of unused clusters with a file system for a plurality of storage devices as disclosed by STOPPANI cannot be reasonably interpreted to disclose or render obvious acquiring information about a predetermined threshold number of unused clusters from an information recording medium as recited by the claimed combinations of independent claims 1 and 6.

In addition to the above, Applicants further submit that AAPA, WELLS, and MASSIGLIA fail to cure the deficiencies of STOPPANI. To the contrary, AAPA is merely relied upon to disclose recording data to a free area of a recording area of an information recording medium that is managed in units of blocks of clusters. AAPA, however, does not disclose that information about a predetermined threshold number of unused clusters is acquired from the information recording medium.

Furthermore, WELLS merely discloses a method of allocating memory space within a FLASH array 62 including the step of determining whether there is enough free memory in a block before writing to the block (WELLS, col. 15, lines 48-60 and col. 18,

lines 36-38). However, as acknowledged by the Examiner on page 4 of the outstanding Official Action, WELLS does not disclose nor render obvious the limitation of a predetermined threshold number of unused clusters. Accordingly, Applicants respectfully submit that WELLS cannot be reasonably interpreted to disclose or render obvious the feature of acquiring information about a predetermined threshold number of unused clusters from an information recording medium.

Lastly, Applicants note that MASSIGLIA was solely relied on in the outstanding Official Action to generally disclose a FAT file system. Therefore, Applicants submit that MASSIGLIA fails to remedy the deficiencies of STOPPANI, AAPA, and WELLS as discussed above.

Accordingly, at least for the reasons set forth above, Applicants submit that STOPPANI, AAPA, WELLS, and MASSIGLIA fail to disclose or render obvious each and every feature as recited by amended independent claims 1 and 6. Therefore, the Examiner is respectfully requested to withdraw the 35 U.S.C. §103 rejections of claims independent claims 1 and 6.

With respect to the rejection of dependent claims 2-3, 5, 7, and 9, Applicants submit that these claims are all directly or indirectly dependent from one of allowable independent claims 1 and 6, which are allowable for at least the reasons discussed *supra*. Thus, these dependent claims are submitted to also be allowable for at least the reasons discussed *supra*. Furthermore, all dependent claims recite additional features which further define the present invention over the references of record.

Thus, Applicants respectfully submit that each and every pending claim of the present application (*i.e.*, claims 1-3, 5-7 and 9) meets the requirements for patentability.

Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejections and to indicate the allowance of each and every pending claim in the present application.

### CONCLUSION

In view of the fact that none of the art of record, whether considered alone, or in any proper combination thereof, discloses or renders obvious the present invention as now defined by the pending claims, and in further view of the above amendments and remarks, reconsideration of the Examiner's action and allowance of the present application are respectfully requested and are believed to be appropriate.

Applicants note that this amendment is being made to advance prosecution of the application to allowance, and should not be considered as surrendering equivalents of the territory between the claims prior to the present amendment and the amended claims. Further, no acquiescence as to the propriety of the Examiner's rejection is made by the present amendment. All amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Additionally, Applicants note that the status of the present application is after final rejection and that once a final rejection has issued, applicants do not have a right to amend an application. Nevertheless, pursuant to M.P.E.P. §714.13, Applicants contend that entry of the present amendment is appropriate because the proposed amended claims avoid the rejections set forth in the last Official Action, resulting in the application being placed in condition for allowance, or alternatively, the revised claims place the application in better condition for purposes of appeal. Further, the revised claims do not present any new issues that would require any further consideration or search by the Examiner since the independent claims were merely amended to incorporate features

previously recited in dependent claims. Additionally, the amendment does not present any additional claims without cancelling a like number of pending claims. Accordingly, entry of the present amendment is respectfully requested.

Should the Commissioner determine that an extension of time is required in order to render this response timely and/or complete, a formal request for an extension of time, under 37 C.F.R. §1.136(a), is herewith made in an amount equal to the time period required to render this response timely and/or complete. The Commissioner is authorized to charge any required extension of time fee under 37 C.F.R. §1.17 to Deposit Account No. 19-0089.

If there should be any questions concerning this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,  
Hirokazu SO et al.



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